

Appl. No. : **09/804,457**
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AMENDMENTS TO THE SPECIFICATION

Please delete the third full paragraph on page 4 of the specification and replace it with the following new paragraph:

In another embodiment, the invention comprises a method of characterizing the biological activity of a candidate compound. The method includes exposing one or more cells to said compound, repetitively exposing said one or more cells to one or more electric fields so as to effect a controlled change in transmembrane potential of said one or more cells, and monitoring, without using a patch clamp, changes in the transmembrane potential. In one embodiment, a method of assaying ion channel activity comprises exposing at least one cell to a plurality of electric field pulses so as to create a controlled change in transmembrane potential and so as to activate an ion channel of interest, and detecting ion channel activity by detecting one or more changes in transmembrane potential without using a patch clamp.